

What is claimed is:

1. An optical system comprising first and second optical lenses arranged so as to have coinciding or substantially coinciding optical axes, wherein:
 - 5 said first optical lens has a substrate comprised of an optical material;
 - said substrate has a convex portion serving as a convex lens and an outer circumference portion positioned around said convex portion;
 - 10 a thickness of said substrate at said outer circumference portion is greater than a thickness of said substrate at said convex portion; and
 - the outer circumference portion of said first optical lens and said second optical lens are fixed in place so that said convex portion of said first optical lens faces said second optical lens.
2. An optical system as set forth in claim 1, wherein:
 - 15 the outer circumference portion of said first optical lens faces the outer circumference portion of said second optical lens; and
 - a facing surface of said outer circumference portion of said first optical lens and a facing surface of said outer circumference portion of said second optical lens are flat or approximately flat.

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3. An optical system as set forth in claim 2,

wherein:

a facing surface of said outer circumference portion of said first optical lens is vertical or 5 substantially vertical with respect to an optical axis of said first optical lens;

a facing surface of said outer circumference portion of said second optical lens is vertical or substantially vertical with respect to an optical axis of 10 said second optical lens; and

a facing surface of said outer circumference portion of said first optical lens and a facing surface of said outer circumference portion of said second optical lens are bonded together.

15 4. An optical system as set forth in claim 1,

wherein:

said outer circumference portion is positioned around said flat portion; and

20 a thickness of said substrate at said outer circumference portion is greater than a thickness of said substrate at said flat portion.

5. An optical system as set forth in claim 1,
wherein the outer circumference portion of said first optical lens and said second optical lens are bonded via 25 an intermediate member so that said convex portion of

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said first optical lens faces said second optical lens.

6. An optical system as set forth in claim 1,
wherein:

5 said second optical lens has a first convex
portion on one surface, a second convex portion on the
other surface facing said one surface, and an outer
circumference portion positioned around said first and
second convex portions, center axes of said coinciding or
substantially coinciding; and

10 the outer circumference portion of said second
optical lens and the outer circumference portion of said
first optical lens are fixed in place.

7. A method of producing an optical system having
first and second optical lenses, wherein:

15 said first optical lens has a substrate
comprised of an optical material; and

 said substrate has a convex portion serving as
a convex lens and an outer circumference portion
positioned around said convex portion, a thickness of
20 said substrate at the outer circumference portion being
greater than a thickness of said substrate at said convex
portion;

 comprising the step of bonding together said
outer circumference portion of said first optical lens
25 and said second optical lens so that optical axes of said

first and second optical lenses coincide or substantially coincide.

8. A method of producing an optical system as set forth in claim 7,

5 further including the step of mounting the outer circumference portion of said second optical lens on said outer circumference portion of said first optical lens and positioning said first and second optical lenses so that said optical axes coincide or substantially 10 coincide;

a mounting surface of said outer circumference portion of said first optical lens being flat or approximately flat; and

15 a bottom surface of said outer circumference portion of said second optical lens being flat or approximately flat.

9. A method of producing an optical system as set forth in claim 8, wherein:

20 the mounting surface of said outer circumference portion of said first optical lens is vertical or substantially vertical with respect to the optical axis of said first optical lens; and

25 the bottom surface of said outer circumference portion of said second optical lens is vertical or substantially vertical with respect to the optical axis

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of said second optical lens.

10. A method of producing an optical system as set forth in claim 7, wherein:

5 said first optical lens further comprises a flat portion positioned around said convex portion;

 said outer circumference portion of said first optical lens is positioned around said flat portion; and

 a thickness of said substrate at said outer circumference portion of said first optical lens is 10 greater than a thickness of said substrate at said flat portion.

11. A method of producing an optical system as set forth in claim 7, wherein said outer circumference portion of said first optical lens and said second optical lens are bonded via an intermediate member so that the optical axes of said first and second optical lenses coincide or substantially coincide.

12. A method of producing an optical system as set forth in claim 7, wherein said second optical lens has a 20 first convex portion on one surface, a second convex portion on the other surface facing said one surface, and said outer circumference portion positioned around said first and second convex portions, center axes of said first and second convex portions coinciding or 25 substantially coinciding.

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13. An optical pickup, comprising:

a laser;

an optical system for focusing laser light from said laser on an optical disk; and

5 a photodetector for receiving said laser light reflected at said optical disk;

wherein:

said optical system comprises first and second optical lenses arranged so that their optical axes 10 coincide or substantially coincide;

said second optical lens passes the laser light from said laser and supplies it to said first optical lens;

15 said first optical lens has a substrate comprised of an optical material;

said substrate has a convex portion for focusing laser light from second optical lens on said optical disk and an outer circumference portion positioned around said convex portion;

20 a thickness of said substrate at said outer circumference portion is greater than a thickness of said substrate at said convex portion; and

the outer circumference portion of said first optical lens and said second optical lens are fixed in place so that said convex portion of said first optical

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lens faces said second optical lens.

14. An optical pickup as set forth in claim 13,
wherein:

5 said outer circumference portion of said first
optical lens faces the outer circumference portion of
said second optical lens; and

10 a facing surface of said outer circumference
portion of said first optical lens and a facing surface
of said outer circumference portion of said second
optical lens are flat or approximately flat.

15. An optical pickup as set forth in claim 14,
wherein:

15 a facing surface of said outer circumference
portion of said first optical lens is vertical or
substantially vertical with respect to the optical axis
of said first optical lens;

20 a facing surface of said outer circumference
portion of said second optical lens is vertical or
substantially vertical with respect to the optical axis
of said second optical lens; and

the facing surface of said outer circumference
portion of said first optical lens and the facing surface
of said outer circumference portion of said first optical
lens are bonded together.

25 16. An optical pickup as set forth in claim 13,

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wherein:

said first optical lens further comprises a flat portion positioned around said convex portion;

5 said outer circumference portion is positioned around said flat portion; and

a thickness of said substrate at said outer circumference portion is greater than a thickness of said substrate at said flat portion.

17. An optical pickup as set forth in claim 13,
10 wherein the outer circumference portion of said first optical lens and said second optical lens are bonded via an intermediate member so that said convex portion of said first optical lens faces said second optical lens.

18. An optical pickup as set forth in claim 13,
15 wherein:

 said second optical lens has a first convex portion on one surface, a second convex portion on the other surface facing said one surface and an outer circumference portion positioned around said first and second convex portions, center axes of said first and second convex portions coinciding or substantially coinciding, and

 the outer circumference portion of said second optical lens and an outer circumference portion of said first optical lens are bonded together.